

2. (Presently amended) A system as in claim 1, the testing unit comprising:

means for identifying ~~one of said one or more remotely connected devices as being associated with an initiating connection test initiator~~ the one cable modem that transmitted the self-test request code; and

means for pinging ~~said~~ the identified ~~one remotely connected device~~ cable modem.

3. (Presently amended) A system as in claim 2, wherein the testing unit further comprises:

~~means~~ a determiner for determining whether ~~said~~ the identified ~~one remotely connected device~~ cable modem has previously registered ~~with said network~~.

- 4-7. (Canceled)

8. (Presently amended) A system as in claim 1 further comprising:

an automatic response system providing ~~initiating users~~ the user with connection test results.

9. (Presently amended) A system as in claim 8, wherein the automatic response system comprises a voice response system ~~dialing initiating users and providing that~~ provides a vocal report of the connection test results to the user.

10. (Presently amended) A system as in claim 8, wherein the automatic response system comprises an e-mail server that automatically sending sends an e-mail test that reports provides the connection test results to initiating users the user.

11. (Presently amended) A method of automatically testing and diagnosing problems associated with ~~each~~ at least one of a plurality of ~~remotely connected devices~~ cable modems on a network ~~of said remotely connected devices~~, each of ~~said remotely connected devices~~ the cable modems being uniquely identifiable, ~~the~~ at least one of said remotely connected devices cable modem being capable of initiating a service request, said method comprising ~~the steps of:~~

receiving a self-test request code from the at least one cable modem
wherein the self-test request code is generated in response to a user actuating a button physically located on the at least one cable modem;

a) identifying ~~one remotely connected device~~ the at least one cable modem as being associated with a service check request, a requesting user making said service check request;

b) pinging said ~~the identified remotely connected device~~ cable modem;

e) examining system logs to determine if an error is indicated for ~~said one remotely connected device~~ the identified cable modem; and

d) reporting service check results to ~~said requesting the user using said one remotely connected device.~~

12. (Presently amended) A method as in claim 11, wherein ~~said identified one~~
~~remotely connected device is a cable modem and, the step (a) of the~~ identifying the ~~one~~
~~remotely connected device~~ cable modem comprises ~~the steps of~~:

- i) identifying a cable modem machine access code (MAC) address from a subscriber database;
- ii) identifying a cable modem Internet protocol (IP) address from a Dynamic Host Configuration Protocol (DHCP) server reservation; and
- iii) determining a Cable Modem Terminal System (CMTS) from the ~~said~~ cable modem IP address.

13. (Presently amended) A method as in claim 12 wherein, if it is determined ~~in step~~
~~(b) that the~~ identified cable modem ~~associated with the requesting user~~ is pingable, then,
~~a determination is made~~ determining whether the identified cable modem is registered on the CMTS.

14. (Presently amended) A method as in claim 13, wherein if it is determined that the
identified cable modem is registered on the CMTS, then, the ~~requesting~~ user's personal computer (PC) networking configuration is checked.

15. (Presently amended) A method as in claim 11 wherein, if ~~in step (b)~~ it is
determined that the ~~requesting~~ user's cable modem is not pingable, the method further
comprising ~~the step of~~:

~~b1)~~ determining if the CMTS contains an entry corresponding to the ~~requesting~~ user's cable modem MAC address in a status table.

16. (Presently amended) A method as in claim 15 wherein, if the cable modem MAC address is not found in the status table, the ~~requesting~~ user is directed to physically check the cable modem for an identification of connection to the network.

17. (Presently amended) A method as in claim 11, wherein the ~~step (e)~~ of examining systems logs to determine if an error is indicated comprises ~~the steps of~~:

- i) checking a trap log for registration failure;
- ii) checking ~~said~~ a DHCP server to determine if it is functioning;
- iii) checking ~~said~~ a TFTP server to determine if it is ~~working~~ functioning; and
- iv) checking for the identified cable modem's DHCP Discover in the DHCP.

18. (Presently amended) A method as in claim 17 wherein, ~~if the step (e) (i)~~, if the trap log shows a registration failure, ~~said the~~ the registration failure is reported ~~in step (d)~~.

19. (Presently amended) A method as in claim 17 wherein, ~~if the step (e) (ii)~~ it is determined that the DHCP Server is not ~~working~~ functioning, a DHCP Server failure is reported ~~in step (d)~~.

20. (Presently amended) A method as in claim 17 wherein, if ~~the in step (e) (iii)~~ it is determined that the TFTP Server is not ~~working~~ functioning, then, a TFTP Server failure is reported ~~in step (d)~~.

21. (Presently amended) A method as in claim 17 wherein, if ~~in step (e) (iv)~~ the cable modem's DHCP Discover is not found, then, the method further comprises ~~the steps of:~~
checking the CMTS log for a DHCP Discover,
exporting an invalid DHCP helper address condition when the DHCP Discover is found in the CMTS log, and otherwise
indicating that the cable modem did not provide a DHCP Discover.

22. (Presently amended) A method as in claim ~~20~~ 17 where, if ~~it in step (e) (iv)~~ the cable modem's DHCP Discover is found in the DHCP log, the method further comprising ~~the steps of:~~
checking the TFTP Server for a logged request, and
checking the cable modem config file when a logged request is found in the TFTP Server and, otherwise
checking the CMTS to TFTP IP routing.

23. (Canceled)

24. (Presently amended) The ~~servicing~~ system of claim 23 1 wherein the ~~devices are cable modems and the predetermined diagnostic testing unit~~ includes software of the ~~modems~~ configured to undertake the testing.

25. (Presently amended) The ~~servicing~~ system of claim 23 1 including a contact database ~~maintained by the servicing station~~ for correlating user contact information and an identifier ~~for the device~~ associated with the ~~user~~ cable modem.

26. (Presently amended) The ~~servicing~~ system of claim 25 wherein the ~~devices are cable modems and the identifier is an IP address.~~

27-28. (Canceled)

29. (Presently amended) The ~~servicing~~ system of claim 28 2 wherein ~~responsive to said self test code from one of said cable modems, said servicing station pings said one~~ the cable modem is pinged with multiple packet sizes.

30. (Presently amended) The ~~servicing~~ system of claim 23 24 wherein the ~~predetermined diagnostic testing unit includes~~ is a hierarchy of tests selected based on predetermined problems that have a high occurrence probability when diagnostic testing is deemed necessary.

31. (New) A system of cable modems connected together over a network, said system comprising:

a distribution hub;

one or more cable modems connected to the distribution hub; and

a testing unit that tests the operation of at least one cable modem in response to a telephone call from a user.

32. (New) The system of claim 31 wherein the testing unit examines system logs to determine if an error is indicated.

33. (New) The system of claim 32 wherein the examining of system logs comprises:

checking a trap log for registration failure;

checking a DHCP server to determine if it is functioning;

checking a TFTP server to determine if it is functioning; and

checking to the at least one cable modem's DHCP Discover in the DHCP server.\

34. (New) The system of claim 31 further comprising:

an automatic response system providing the user with connection test results.